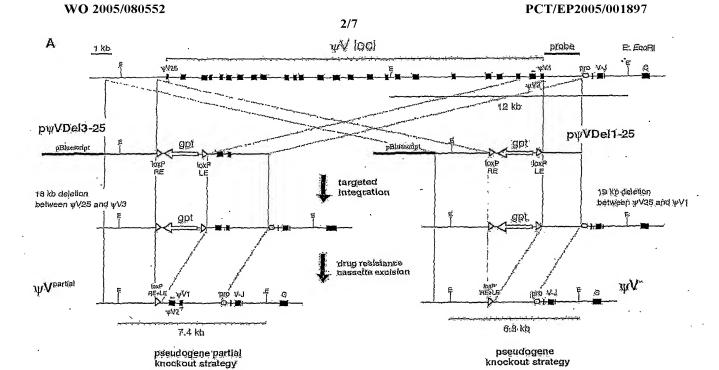
Table 1 Mutation profile

	Mutation ratio					Type of mutation .			
Cell line	Gene	Mutation events	Total bp	Frequency: mutation/bp (x 10 ⁻³)	Mutated sequences /total	Point mutation (non- templated)	Gene conversion	Deletion	Insertion
AID ^R ψV	٧J	135	45220	2,99	70 / 95 (73,7%)	133	-	2	. 0
	Bu-1	1	47500	0,02	1/95 (1,1%)	0	-	1	0
	EF1α VJC (cDNA) from sorted IgM	2	42720	0,05	2 / 89 (2,2%)	2 .	-	0 .	0
	(-)	245 、	80276	3,05	87 / 94 (92,6%)	239	_ ,	5	1.
AID ΨV	Λ1	0	45220	0,00	0 / 95 (0,0%)	Ó	, -	0	0.
$\mathrm{AID}^{R}\psi V^{pai}$		110	46354	2,37	65 / 98 (66,3%)	87 (80)	18	4	1
AID-/- ψV ^{pa}	Λ1 .	3	43516	0,07	3 / 92 (3,3%)	3	0	. 0	0
AID^R	Λ1	112	25960	4,31	55 / 5 5. (######)	39 (9)	72	1	0
AľD ^{-/-}	Ϋ́	3	39732	0,08	3 / 84 (3,6%)	3	0	0	0
XRCC3 ⁷⁻	VJ .	56	44462	1,26	38 / 94 (40,4%)	55 (40)	1	0	0



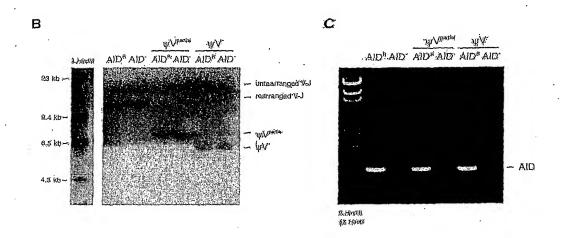
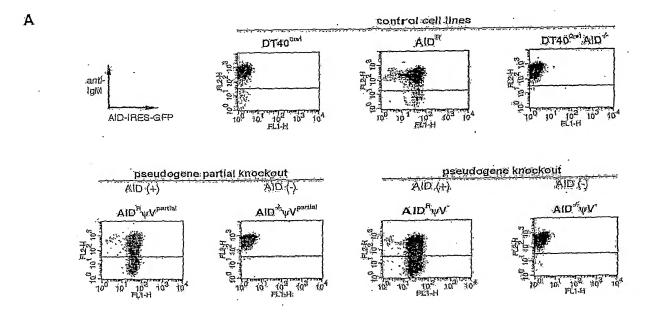


Figure 1



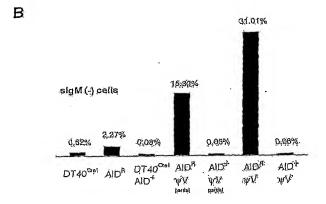


Figure 2

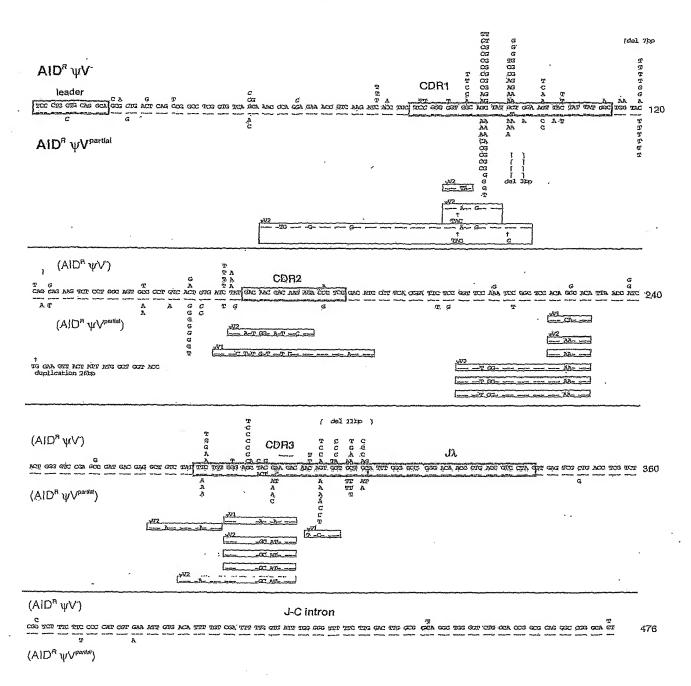


Figure 3

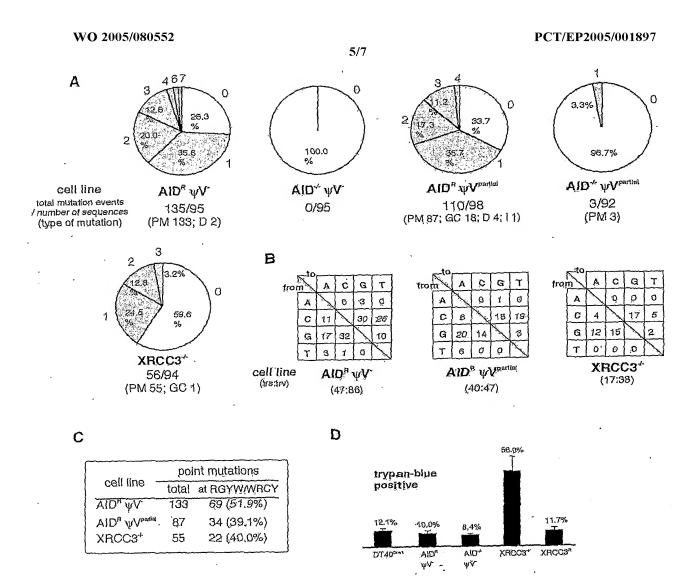
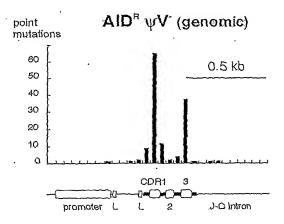


Figure 4



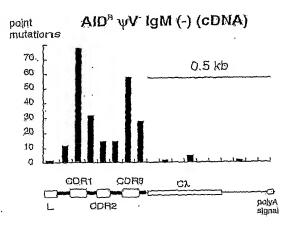


Figure 5

AID mediated DNA modification

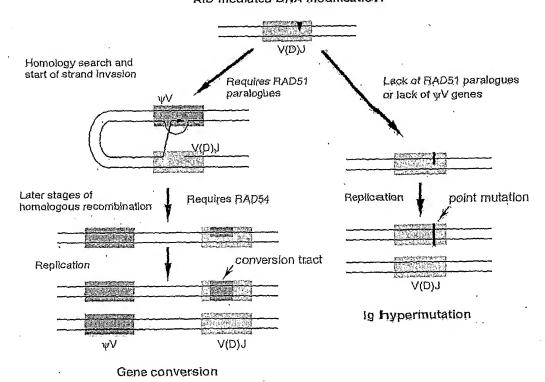
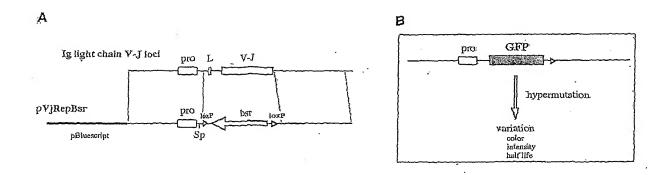
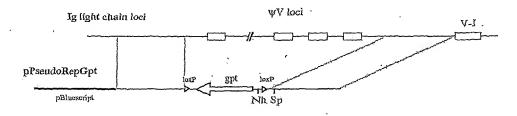


Figure 6



C



D

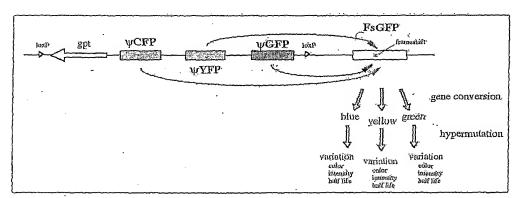


Figure 7